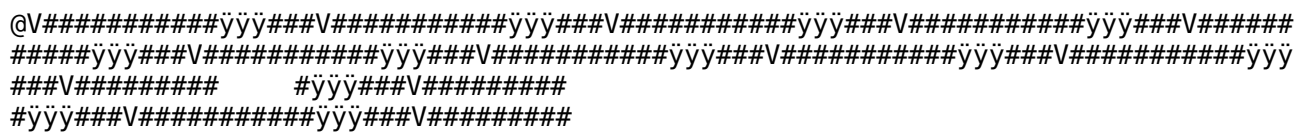

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###ÿÿ#####ÿ□#ÿÿd#########d######### ###WEBSTER□S DEFINITION OF STRESS:MENTAL, EMOTIONAL OR PHYSICAL TENSION, STRAIN OR DISTRESS.CAN YOU CONTROL YOUR STRESS? EVERYONE RESPONDS TO STRESS DIFFERENTLY IT DEPENDS ON YOU TO PREPARE YOURSELF FOR STRESSFUL SITUATIONS AND YOU CAN BETTER PREPARE YOURSELF BY AVOIDING PERSONAL STRESSES AND BEING PHYSICALLY FIT.STRESS IS A NECESSARY POSITIVE FORCE. we CANNOT WORK EFFECTIVELY OR EVEN MAINTAIN GOOD HEALTH AND A SENSE OF WELL-BEING WITHOUT A FAIR AMOUNT OF IT; IN OTHER WORDS, IF WE HAVE INSUFFICIENT STRESS IN OUR LIVES, WE MAY RUST OUT. HOWEVER, STRESS BECOMES A MAJOR PROBLEM WHEN WE ARE OVER-STIMULATED OR BOMBARDED WITH TOO MUCH WORK OR TOO MANY DISRUPTIONS AND SURPRISES. WHEN WE EXPERIENCE THIS SITUATION, WE MAY BURN OUT. THE STRESS MANAGEMENT TASK EACH OF US FACES IS ONE OF MAINTAIN LIFE AND WORK STYLES THAT AVOID BOOT H RUST AND BURN OUT.BECAUSE WE MAY EXPERIENCE AN OVERLOAD OF STRESS AND NOT DEAL WITH IT EFFECTIVELY OVER LONG PERIODS OF TIME WE CAN EVENTUALLY EXPERIENCE UNDESIRABLE MANIFESTATIONS OF STRAIN: #

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      7#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########h###OVER AGGRESSIVEDISREGARD RULES
SOCIAL EXTROVERTDRANK EXCESSIVELYSENSITIVE TO CRITICISMNO LIMITATIONS
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###ÿÿ#####ÿ□#ÿÿd#########d#########%###FOLLOWING PILOT  HUMAN FACTORS EXISTED
PRIOR A: PENDING DIVORCE COMPLICATED BY ISSUES OF GARNISHMENT OF WAGES AND CHILD
VISITATION RIGHTSB: MP RECENTLY ASSUMED RESPONSIBILITY FOR 19 YR OLD STEPSON WHO
WAS IN TROUBLE WITH POLICE AND WHO HAD RECENTLY FATHERED A CHILD OUT OF WEDLOCK
C: MP WAS RELIEVED FOR CAUSE AS MAINTENANCE OFFICER BY ms CO IN OCT 92D: MP
EXPRESSED CONCERN TO MS CO OVER CIRCUMSTANCES SURROUNDING BEING PASSED OVER FOR
PROMOTION TO O-5 IN MAR92 E: MP□S FORMER GIRLFRIEND WAS NINE MONTHS PREGNANT .MP
WAS UNDERGOING PRIVATE FAMILY COUNSELING WITH FORMER GIRLFRIEND.F: MP STATED TO
FORMER GIRLFRIEND THAT HE FEARED HE WAS ABOUT TO BE RE-INVESTIGATED FOR
UNSPECIFIED ACTIONS AT THE 1991 TAILHOOK CONVENTION.G: MP WAS ADMITTED TO
OAKLAND, CA IN AUG 82 FOR LEVEL III ALCOHOL TREATMENT AFTER EXPRESSING POTENTIAL
SUICIDE INTENT TO A FRIEND.H: MP FLEW MA TO TWIN FALLS TO RESOLVE LONG-STANDING
GRUDGE HE FELT WAS HELD BY HIS UNCLEI: MP RECENTLY BECAME SERIOUS IN
RELATIONSHIP WITH PRESENT GIRLFRIEND.MS CO WAS AWARE OF HUMAN FACTORS A-D.#
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##########ÿ□#ÿÿd#########d#########q###ULTIMATE GOAL MAINTAIN HOMEOSTASIS IF WE DON□T DEAL WITH ACUTE STRESS THESE ARE OUR RESULTSFOR CHRONIC STRESS:#

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###ÿÿ#####ÿ□#ÿÿd#########d#########4###A VARIETY OF STRESSFUL CONDITIONS ALL ACT ON THE BRAIN TO ELICIT THE RELEASE OF CORTICOTROPHIN-RELEASING HORMONE (CRH) FROM THE HYPOTHALAMUS. CRH STIMULATES THE RELEASE OF CORTICOTROPHIN (ACTH) A POLYPEPTIDE HORMONE, FROM THE ANTERIOR PITUITARY . ACTH ACTS ON THE ADRENAL CORTEX STIMULATING THE SYNTHESIS AND RELEASE OF CORTICAL .ONCE THE CORTISOL LEVEL IS SUFFICIENTLY ELEVATED, CRH AND ACTC SECRETION ARE DECREASED THROUGH THE NEGATIVE-FEEDBACK EFFECT OF CORTISOL ON THE HYPOTHALAMUS.ADRENAL GLANDS ARE PAIRED ORGANS LOCATED ABOVE THE KIDNEYS. THE ADRENAL MEDULLA IS PART OF THE SYMPATHETIC DIVISION OF THE AUTONOMIC NERVOUS SYSTEM.THEY RELEASE CATECHOLAMINS CALLED EPINEPHRINE/NOREPINEPHRINE.DURING FIGHT-FLIGHT SYNDROME DEMANDS INCREASED BLOOD FLOW, NUTRIENTS, AND O2 SUPPLY.EPINEPHRINE VASODILATOR INCREASE BLOOD FLOW TO THE HEART NOREPINEPHRINE ACTS ON THE VISCERAL BLOOD VESSELS TO CAUSE VASOCONSTRICTION SHUNTING THE BLOOD TO THE MUSCLES. EPINEPHRINE INCREASE FATTY ACID AND GLYCOGEN BREAKDOWN. CATECHOLAMINES ACT ON THE BRAIN TO INCREASE AROUSAL, ALERTNESS, AND EXCITABILITY. THEY ALSO DILATE THE PUPIL, PERMITTING MORE LIGHT TO ENHANCE PERIPHERAL VISION;IN SHORT, THE FUNCTIONS OF THE ADRENAL MEDULLA SHOULD BE CONSTRUED AS COMPLEMENTARY AND SYNERGISTIC WITH THE FUNCTIONS OF THE SYMPATHETIC NERVOUS SYSTEM.

##########ÿ□#ÿÿd#########d#########0###AS STRESS INCREASES SO DOES PERFORMANCE TO AN OPTIMAL LEVEL IF YOU ARE OVER-STRESSED YOU WILL SURPASS YOUR OPTIMAL PERFORMANCE LEVEL AND DECLINE IN PERFORMANCETHEREFORE IT IS PARAMOUNT TO PREPARE YOURSELF MENTALLY AS WELL AS PHYSICALLY TO PREPARE FOR STRESS IN ORDER TO PERFORM AT YOUR OPTIMAL LEVEL.

##########ÿ□#ÿÿd#########d#########¦###MANY INSTANCES PHYSIOLOGICAL STRESSORS ARE THINGS THAT WE DO TO OURSELVES. THESE THINGS ARE USUALLY AVOIDABLE AND CAN BE CONTROLLED, IN OTHER WORDS WE CAN CONTROL THE EFFECT OF THE STRESSOR. MANY OF THESES STRESSORS ARE THE RESULT OF INAPPROPRIATE COPING STRATEGIES TO OTHER STRESSES. PEOPLE MAY USE DRUGS AND OR ALCOHOL IN AN ATTEMPT TO REDUCE JOB RELATED STRESS, WHICH FOR THE MOST PART WILL ONLY CAUSE FURTHER HARM.

###ÿÿ#####ÿ□#ÿÿd#########d#########á###NATOPS STATES NO SELF MEDICATING WITHOUT THE APPROVAL OF A FLIGHT SURGEON WHY?WHAT IS THE REASON YOU□RE TAKING THE MEDICATIONMAYBE YOU SHOULDN□T BE FLYINGSIDE EFFECTS: DROWSINESS, SEDATION, HYPERACTIVITYSYNERGISTIC EFFECTPRODUCING AN EFFECT WHICH NEITHER COULD PRODUCE ALONE OR AN EFFECT WHICH IS GREATER THAN THE TOTAL EFFECTS OF EACH AGENT OPERATING BY ITSELF.I.E. IF TAKEN WITH CAFFEINE DRUG IS LONGER ACTING IDIOSYNCRATIC EFFECT EVERY INDIVIDUAL DIFFERENTWHAT EFFECT IT HAS ON YOU AT SITE LEVEL MAY NOT BE THE SAME EFFECT AT ALTITUDETOLERANCEBODY BUILDS UP A TOLERANCE THE MORE YOU TAKE THE MOREYOUR BODY RELIES UPON IT TO FUNCTION AT THE NEW LEVEL AFTER MEDICATION WEARS OFF THE SYMPTOMS REOCCUR IN A MORE EXTREME NATURE#

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#□#ÿÿ####ÿÿ####Uÿl#ÿÿK#########d#########h###RESTLESSNESSLOSS OF CONCENTRATION
DISTURBED SLEEPMILD ADDICTIONDECREASED AWARENESSHEART PALPITATION
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###ÿÿ#####ÿ#ÿÿd#########d#########Þ###CAFFEINE IS A DRUGWE CAN BECOME ADDICTED AND WE CAN BUILD UP A TOLERANCE TO IT....IF WE STOP DRINKING CAFFEINE WE CAN GO THROUGH WITHDRAWAL SYMPTOMSCAFFEINE SHOULD BE USED IN MODERATION, IF USED AT ALL. AIRCREW SHOULD CONSIDER USING DEC caffeinated BEVERAGES AS A SUBSTITUTE. PSYCHOACTIVE DRUG: MOLECULES ARE ALMOST IDENTICAL TO THOSE OF A BRAIN CHEMICAL CALLED ADENOSINE (NEUROTRANSMITTER) adenosine IS RELEASED BY NERVE ENDINGS TRAVELS TO RECEPTORS ON BRAIN CELLS AND COUNTERACTS THE RELEASE OF OTHER CHEMICALS THAT EXCITE THOSE CELLS. when COFFEE IS INGESTED THE CAFFEINE MOLECULES TRAVEL TO THE BRAIN AND OCCUPY SOME OF THE RECEPTORS REPLACING THE ADENOSINE MOLECULES AND ALLOWING EXCITEMENT OF THOSE BRAIN CELLS TO CONTINUE.

##########ÿ□#ÿÿd#########d#########R###NATOP's SUGGESTS TO LIMIT CAFFEINE INTAKE TO NO MORE THAN 450 MG OF CAFFEINE A DAYCAFFEINE ACTS AS A STIMULANT AND DIURETIC WHICH CAN RESULT IN DEHYDRATION.EXCESSIVE AMOUNTS OF CAFFEINE CAN AFFECT YOUR G-TOLERANCE BY REDUCING BLOOD VOLUME, THUS MAKING YOU MORE SUSCEPTIBLE TO G-LOC..SEVERAL STUDIES HAVE DEMONSTRATED THAT CAFFEINE IMPROVES ENDURANCE EXERCISE PERFORMANCE POSSIBILITIES INCLUDE INCREASED FF. OXIDATION WITH CONSEQUENT SPARING OF MUSCLE GLYCOGEN AS WELL AS ENHANCEMENT OF NEUROMUSCULAR FUNCTION DURING EXERCISE, ALSO AN INCREASE IN EPINEPHRINE.caffeine MIMICS ADENOSINE

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###ÿÿ#####ÿ□#ÿÿd#########d#########M###NATOPS 3710.7 Q#ALCOHOL INTAKE WITH IN 12
HOURS#OF FLIGHT PLANNING PROHIBITEDD
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###ÿÿ#####ÿ#ÿÿd#########d#########Å###THREE THINGS THAT CAN CROSS THE BLOOD BRAIN BARRIERASPIRIN, CAFFEINE, ALCOHOLIT IS ASSUMED THAT AFTER 14 HOURS ALL TRACES OF ALCOHOL ARE REMOVED FROM THE BLOOD. ALCOHOL PRODUCES SIGNIFICANT CHANGES IN THE BODY SYSTEMS. THESE CHANGES ARE PRESENT LONG AFTER THE ALCOHOL HAS BEEN METABOLIZED. ALL PILOTS SHOULD BE AWARE OF THIS RESIDUAL/HANGOVER EFFECTS OF ALCOHOL, WHICH CAN BE DETRIMENTAL TO PERFORMANCE EVEN THOUGH THERE ISNT A DETECTABLE LEVEL OF BLOOD ALCOHOL PRESENTREDUCES CELLS ABILITY TO TRANSPORT OXYGEN...HISTOTOXIC HYPOXIAALCOHOL IS A SEDATIVE, AND A CNS DEPRESSANT ANESTHETICIT INHIBITS ADH LEADING TO DEHYDRATION BODY TAKES 3 HRS TO METABOLIZE 1.5 OZ OF ALCOHOL12 HRS FOR 6 OUNCES.#

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Ã#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########}###VESTIBULAR EFFECT:ENDOLYMPH REDUCES
SPECIFIC GRAVITY.....BED SPINS, MOTION SICKNESSUP TO 48 HOURS AFTER CONSUMING
ALCOHOL#
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###ÿÿ#####ÿ□#ÿÿd#########d#########^###NATOPS 3710.7#FLIGHT CREWS SHALL ENSURE
THAT THEY ARE FREE OF HANGOVER EFFECTS PRIOR TO FLIGHT
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##########ÿ□#ÿÿd#########d#########Í###VESTIBULAR EFFECT:ENDOLYMPH REDUCES SPECIFIC GRAVITY BED SPINS, MOTION SICKNESS UP TO 48 HOURS AFTER CONSUMING ALCOHOL.INCREASES DEHYDRATIONDECREASES G-TOLERANCEDECREASES TOLERANCE TO THERMAL STRESSS

##########ÿ□#ÿÿd#########d#########x###BODY 70 % WATERNEED WATER TO ASSIST WITH ALL METABOLIC FUNCTIONS. FLUID NEEDS DEPEND ON: BODY SIZE, FITNESS LEVEL, TRAINING, AND DIETARY FACTORS (E.G. CAFFEINE, ALCOHOL DEHYDRATES)SPREAD OUT H20 INTAKE OVER THE DAY DRINK PAST FEELING THIRSTY, WHICH TURNS OFF BEFORE YOU□VE REPLENISHED LOST FLUIDSBALANCE OF WATER IS UNDER CONTROL OF KIDNEYSLOST VIA URINE, SWEAT ,EXHALATIONTHE MORE HYDRATED YOU ARE THE BETTER PREPARED YOU ARE TO TOLERATE ENVIRONMENTAL STRESSORS:HEAT, COLD, VIBRATION, G-LOC, HYPOXIA, ABSTAINING FROM DIURETICS ALCOHOL CAFFEINEINGEST ION OF LIQUIDS THROUGHOUT THE DAY WILL REDUCE DEHYDRATIONCOLOR OF URINE DETERMINES LEVEL OF DEHYDRATION4-5 QUARTS H2O/DAY IF SEDENTARYH2O HELPS THE LIVER CONVERT FAT IN THE BLOODSTREAM INTO USABLE ENERGY NATURAL APPETITE SUPPRESSANT.WHEN YOU INCREASE LEAN BODY MASS INCREASE H20INCREASE BV IMPROVES 02 AND NUTRIENT DELIVERY

##########ÿ□#ÿÿd#########d#########®###SYMPTOMS OF DEHYDRATIONHEADACHE DARK URINE CONSTIPATION DIZZINESS DRY MUCOUS MEMBRANES IRRITABILITY FATIGUE TACHYCARDIA INSOMNIA ABDOMINAL PAIN HEMORRHOIDSPREDISPOSING FACTORS FOR DEHYDRATIONPOOR PHYSICAL CONDITIONINGOBESITYPROTECTIVE GEARAFFECTIVE THERMODYNAMICSSWEATING KEEPS YOU COOL HOWEVER LOSING ALL THAT H20/FLUID LESSENS THE EFFICIENCY OF THE INTERNAL OPERATIONS OF YOUR BODY.IF YOU DON□T TAKE IN H20 BLOOD THICKENS. THIS MAKES YOUR HEART PUMP HARDER AND SLOWS O2/NUTRIENT DELIVERY TO MUSCLES WHICH MAKES YOU SUFFER IN THE LONG RUN.AS YOU DEHYDRATE YOUR PACE SLOWS, MAY BECOME DIZZY,WEAK, OR NAUSEATED. EVENTUALLY YOU MAY CRAMP UP, GET CHILLED, OR EVEN HALLUCINATE.

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      S#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########e###6 - 7 % CARBOHYDRATENOT
CARBONATEDCONTAINS ELECTROLYTESTASTES GOODNO GI DISTRESSRAPIDLY ABSORBED#
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##########ÿ#ÿÿd#########d#########j###PEOPLE WHO EXERCISE AT HIGH INTENSITIES FOR MORE THAN 30 MINUTES SHOULD CONSUME A SPORTS DRINK TO REHYDRATEACSM 1993 ELECTROLYTES, SODIUM POTASSIUM MAGNESIUMUS ARMY RESEARCH INSTITUTE ENVIRONMENTAL MEDICINE IN MASS :ON A HOT DAY 1/2 GALLON OF SWEAT CAN BE LOST PER HOURBEFORE YOU EXERCISE DRINK 2 CUPS OF WATERSEVERAL CUPS AFTER1 PT PER HOURIF YOURE THIRSTY ITS TOO LATEMONITOR YOUR URINE COLORDRINKING WATER OR SUGAR FREE PRODUCTS AID IN FAT METABOLISM AND SPARE MUSCLE GLYCOGEN FROM DEPLETIONWEIGH BEFORE/AFTER1LB = 1 PT H2O MUSCLES ARE MOST RECEPTIVE TO REPLACEMENT IMMEDIATELY FOLLOWING EXERCISE

##########ÿ□#ÿÿd#########d############EXERCISE EXPERTS KNOW THAT MOST ATHLETES LOSE RELATIVELY LITTLE SODIUM AND POTASSIUM UNLESS THEY EXERCISE STRENUOUSLY FOR MORE THAN SIX HOURS IN THE HEAT. THEY GET YOU TO DRINK MORE FLUIDSEXPERIMENTING DURING TRAINING IS THE BEST WAY TO DETERMINE WHETHER SPORTS DRINKS WORK FOR YOU. SAVE MONEY BY DRINKING WATER WITH FRUIT OR DRINK FRUIT JUICE.RESEARCHERS STATE SPORTS DRINK IS IMPORTANT FOR FLUID ABSORPTION IF EXERCISING OVER AN HOUR AT A TIME.BE AWARE OF THE TOTAL GRAMS IN ONE 8 OZ SERVING DOESN□T EXCEED 20 GRAMS3

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ö8ûö###ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########c###ACCLIMATIZATIONHIGHER TEMP
INCREASE SWEATINCREASE CODECREASE BODY TEMPDECREASE URINE OSMOLARITY
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##########ÿ□#ÿÿd#########d#########M###OVEREXERTION OR INTENSE EXPOSURE TO HOT ENVIRONMENTS INTERFERES WITH BODY□S ABILITY TO COOL ITSELFEXERCISE INCREASES INTERNAL HEAT PRODUCTION = 15-20 X□S SWEAT DECREASE TEMP 85%DEPENDING ON THE ENVIRONMENT HIGH LEVELS OF HEAT/HUMIDITYCAN IMPEDE BODY□S ABILITY TO DISSIPATE HEAT VIA SWEATHEAT EXHAUSTIONPROFUSE SWEATING DIZZINESS LIGHTHEADEDNESS WEAKNESS NAUSEARAPID COOLING H20, MIST FANS ICEHEAT STROKECESSATION OF SWEATSOARING BODY TEMP 106 FALTERED MENTAL STATEHOT DRY FEELING SKINSUN BURNS CAN INTERFERE WITH BODY□S ABILITY TO SWEATTAKE IN FLUIDS AVOID CAFFEINE ALCOHOLS

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      ½#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########^###4000 CHEMICALSDIABOLICAL
SYNERGISM40% LESS MAO BDOUBLES DOPAMINENEXT DRUG MORE PLEASURABLE
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##########ÿ□#ÿÿd#########d#########X###SMOKING APPEARS TO CREATE A SELF-PERPETUATING CYCLE: LESS MOA B LEADS TO MORE DOPAMINE, LEADS TO MORE PLEASURE, LEADS TO MORE SMOKING, LEADS TO LESS MOA B AND SO ON.THIS EFFECTS WORKS SYNERGISTICALLY WITH NICOTINE TO BOOST DOPAMINE LEVELS. NICOTINE INCREASES DOPAMINE LEVELS EVERY SUBSTANCE THAT IS ADDICTING LEADS TO AN INCREASE IN DOPAMINE LEVELS IN THE BRAIN. WHICH EXPLAINS WHY PEOPLE WHO ABUSE ONE SUBSTANCE OFTEN ABUSE ANOTHER BIOCHEMICAL PATHWAY OR CHANNEL IS PRODUCED. A DRUG MAY LEAVE AN IMPRINT IN THE BRAIN, SO THAT THE NEXT DRUG BECOMES MORE PLEASURABLE THAN IT WOULD OTHERWISE.CARBON MONOXIDE INTERACTS WITH THE RBCS IT COMBINES WITH THE HEMOGLOBIN FORMS CARBOXYHEMOGLOBIN. THIS COMPOUND PREVENTS THE ATTACHMENT OF OXYGEN MOLECULES TO THE HEMOGLOBIN THUS PRODUCING HYPOXIA.3 CIG BEFORE A FLIGHT PUTS YOU AT 3-5000 FT PHYSIOLOGICALLY

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#K#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########V###DIURNAL VARIATIONSRESET CLOCK>3
TIME ZONE 1 DAY/ZONE25 HOUR CLOCKEXPOSURE TO LIGHT
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###ÿÿ#####ÿ□#ÿÿd#########d#########¢###RUNNING BUILDS LEAN TISSUE DECREASES FATTY TISSUELEAN TISSUE CONTAINS MORE H20 AS YOU INCREASE YOUR CARDIAC OUTPUT VIA RUNNING INCREASE BV WHICH IMPROVES 02 AND NUTRIENT DELIVERYDURING RUNNING MUSCLES GENERATE HEAT 5 MILES= 500 KCALS BURNEDBODY KEEPS COOL VIA SWEAT.DURING ACCLIMATIZATION YOUR SWEAT GLANDS ENLARGE AND INCREASE IN NUMBER GIVING YOU THE ABILITY TO BEGIN SWEATING EARLIER AND PRODUCING MORE SWEAT.

##########ÿ#ÿÿd#########d############INCREASED AEROBIC CAPACITY, WHICH ENHANCES THE BODYS EFFICIENCY TO UTILIZE O2. AEROBIC EXERCISE IS BENEFICIAL TO THE CARDIOVASCULAR SYSTEM, IT INCREASES THE EFFICIENCY OF THE HEART AND LUNGS, AND INCREASES THE RATE AND DEPTH OF BREATHING. muscle CELLS BECOME MORE EFFICIENT IN USING O2. ENHANCES VASCULAR BED.ENDURANCE TRAINING RESULTS IN CHANGES IN ONES ABILITY TO PROVIDE OXYGEN TO WORKING MUSCLES. FOR YEARS, SCIENTISTS HAVE KNOWN THAT REGULAR ENDURANCE TRAINING RESULTS IN AN INCREASE IN THE ENERGY-PRODUCING STRUCTURES, CALLED MITOCHONDRIA, WHICH ARE FOUND IN ALL MUSCLE CELLS. IN ADDITION TO MITOCHONDRIAL INCREASES, THE NUMBER OF BLOOD VESSELS (CAPILLARIES) INCREASES BY 50 %. IT IS THIS INCREASE IN THE NUMBER OF CAPILLARIES THAT ALLOWS FOR GREATER DELIVERY OF NUTRIENTS AND OXYGEN TO THE MUSCLES. THOSE WHO ARE TRAINED ARE ABLE TO EXERCISE LONGER AND AT GREATER INTENSITIES THAN LESS TRAINED INDIVIDUALS.#

###ÿÿ#####ÿ□#ÿÿd#########d#############ANAEROBIC EXERCISE INCREASES FLEXIBILITY, STRENGTHENS SKELETAL MUSCLES, INCREASES COORDINATION, AND BURNS CALORIES. EVEN AFTER YOU□VE FINISHED THE WORK OUT UP TO 12 HOURS LATER.SPRINTS, OR SHORT DURATION HIGH-INTENSITY EVENTS SUCH AS WEIGHT LIFTING, REQUIRE THE RELEVANT MUSCLE GROUPS TO QUICKLY PROVIDE LARGE QUANTITIES OF ENERGY FOR BRIEF PERIODS OF TIME. studies SHOW THAT USING THIS FORM OF EXERCISE WILL ADDITIONALLY ENHANCE THE ABILITY TO WITHSTAND INCREASED G-FORCES FOR LONGER PERIODS. WHEN HEAVY DEMAND IS PLACED ON THE ANAEROBIC PATHWAY, LEVELS OF LACTIC ACID INCREASE, WHICH MAY CAUSE SORENESS AND FATIGUE. REGULAR ANAEROBIC TRAINING ENABLES ATHLETES TO WORK AT GREATER INTENSITIES THAN CAN BE SUPPORTED AEROBICALLY. THIS INCREASE IN MAXIMAL WORK INTENSITY IS DUE TO AN INCREASE IN MUSCULAR STRENGTH AND AN INCREASED ABILITY TO BUFFER LACTIC ACID. ANAEROBIC AND AEROBIC TRAINING PROGRAMS CAN BE DESIGNED TO COMBINE HIGH INTENSITY AND PROLONGED SUBMAXIMAL EXERCISE TO IMPROVE THE REMOVAL OF LACTIC ACID AND DELAY FATIGUE.#

###ÿÿ#####ÿ□#ÿÿd#########d#############EXERCISE PHYSIOLOGIST HAVE COME UP WITH A TERM CALLED:BRAIN FATIGUE: SPENT STORE OF MUSCLE GLYCOGEN, OVERUSE OF SPECIFIC MUSCLE GROUPS, LACTIC ACID BUILD UP ALL OF THESE COMBINED MEANS A PERIPHERAL FATIGUE MECHANISM... ORIGINATE IN THE MUSCLES HOWEVER, AFFECTS AREAS IN THE BRAIN VIA NEUROTRANSMITTERS WHICH PLAY A ROLE IN YOUR MOOD/ALERTNESS. E.G. SEROTONIN INCREASES DURING EXERCISE AND WE ALL KNOW THAT SEROTONIN MAKES US SLEEPY AND TIRED. MAY BE THE REASON WE GET FATIGUE:OXFORD UNIVERSITY BIOCHEMIST ERIC NEWSHOLME PhD. WHEN YOU RUN FOR A LONG TIME YOU DRAIN YOUR MUSCLES OF GLYCOGEN, WHICH IS THE FORM THAT CARBOS TAKE WHEN STORED IN MUSCLE TISSUE. WHEN THIS STORE DECREASES FATTY ACIDS BECOME PRIMARY ENERGY SOURCE....FATTY ACIDS REQUIRE A SPECIAL CARRIER TO TAKE THEM THROUGH THE BLOODSTREAM. HOWEVER ANOTHER SUBSTANCE TRYPTOPHAN AN AMINO ACID THAT CONVERTS TO SEROTONIN COMPETES WITH FFAs WHILE ENDURANCE TRAINING WE USE FFA WE BUMP TRYPTOPHAN OFF ITS CARRIER AND WE SEE MORE FREE FLOATING TRYPTOPHPAN WHICH INCREASES SEROTONIN (TIRED)#

##########ÿ□#ÿÿd#########d#########î###EVERYTHING YOUR MOTHER SAID WAS TRUE:EAT EVERYTHING IN MODERATION EVEN DRINKWIDE VARIETY OF FOOD, FATS, CARBS, PROTEINSNO FAT DIETS ARE HARMFUL AND CAN BACKFIRE BY EATINGTWICE AS MUCH BECAUSE IT□S FAT FREEKEEP IT SIMPLE HEALTHY EATINGAVOID EATING FOODS CONTAINING WORDS YOU CAN□T PRONOUNCECARBOHYDRATE IS STORED IN THE BODY AS GLYCOGEN IN THE LIVER AND MUSCLES, AND AS GLUCOSE IN THE BLOODSTREAM.   PROTEIN AND FAT ARE THE OTHER SOURCES OF FUEL THAT CAN BE SUED DURING EXERCISE.   JUST TWO HOURS OF EXERCISE OR EIGHT HOURS OF FASTING CAN SIGNIFICANTLY DEPLETE CARBOHYDRATE STORES. 60-20-20 40-30-30?????PROTEIN IS USED TO BUILD AND REPAIR TISSUE INCLUDING MUSCLE, LIGAMENTS AND TENDONS. IF TOTAL CALORIC INTAKE IS INSUFFICIENT, PROTEIN WILL BE BROKEN DOWN FOR ENERGY INSTEAD OF BEING USED FOR TISSUE BUILDING.FAT ENERGY FROM FAT IS RELEASED MORE SLOWLY THAN FROM CARBOHYDRATE. FAT EXITS THE STOMACH SLOWLY AND CAN CAUSE CRAMPING, SO ITS CONSUMPTION SHOULD BE HELD TO A MINIMUM DURING EXERCISE.

###ÿÿ#####ÿ□#ÿÿd#########d#########ß### VITAMINS ARE IMPORTANT NUTRIENTS FOR A VARIETY OF METABOLIC REACTIONS, BUT THEY PROVIDE NO ENERGY. THERE IS A COMMON MISCONCEPTION THAT VITAMIN SUPPLEMENTS WILL ENHANCE ATHLETIC PERFORMANCE. AFTER YEARS OF SCIENTIFIC SCRUTINY THERE IS NO EVIDENCE TO SUGGEST THAT VITAMIN SUPPLEMENTATION ENHANCES PERFORMANCE IN INDIVIDUALS WHO ARE CONSUMING AN ADEQUATE DIET. IRON SUPPLEMENTS MAY BE REQUIRED FOR SOME ATHLETES. IRON SUPPLEMENTS FOR ANEMIC ATHLETES CAN HAVE A POSITIVE EFFECT ON HEALTH AND PERFORMANCE, ALTHOUGH IT IS ADVISABLE THAT AN ATHLETE SEEK A PHYSICIAN□S ADVICE BEFORE ASSUMING THEY ARE ANEMIC.ELECTROLYTES ARE MINERALS THAT BECOME ELECTRICALLY CHARGED WHEN DISSOLVED IN BODY FLUIDS. ELECTROLYTES HELP MAINTAIN FLUID BALANCE, BLOOD VOLUME, PROPER NERVE TRANSMISSION, MUSCLE CONTRACTION AND CONTROL OF THE ACID/BASE BALANCE OF BODY FLUIDS. ELECTROLYTES SUCH AS SODIUM, POTASSIUM AND CHLORIDE ARE OFTEN REQUIRED IN GRATER THAN-NORMAL QUANTITIES BY ATHLETES WHO PERSPIRE HEAVILY.#

##########ÿ□#ÿÿd#########d#############NORMAL FAT: MOST DIETARY FAT COMES IN THE FORM OF TRIGLYCERIDES 3 FATTY ACIDS ARRAYED AROUND A MOLECULE OF GLYCEROL, A TYPE OF ALCOHOL BEFORE TRIGLYCERIDES CAN BE ABSORBED BY THE BODY THEY MUST BE SLICED INTO MANAGEABLE PIECES BY INTESTINAL ENZYMES.FAT FREE FATOLESTRA MOLECULES, MADE OF SIX OR EIGHT FATTY ACIDS ATTACHED TO A SUGAR MOLECULE, ARE MUCH BIGGER THAN TRIGLYCERIDES AND PACKED SO TIGHTLY THAT THE ENZYMES CAN□T CUT THEM APART, THEY PASS THROUGH THE INTESTINES WITHOUT BEING ABSORBED.ANAL LEAKAGEVITAMIN DEFICIENCIES □ADEK□ ALL FAT SOLUBLE, THESE VITAMINS LATCH ON TO OLESTRA AND EXIT VIA THE GI TRACTDIARRHEA= LOSS OF LIQUID, ELECTROLYTES GI INFLAMMATION AND POOR ABSORPTION OF PROTEINS AND CARBOHYDRATES.TRIGGERS: CRAMPS, FLATULENCE, BLOATING LOOSE STOOLS FECAL URGENCY

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###ÿÿ#####ÿ□#ÿÿd#########d######### ###WEBSTER□S DEFINITION OF STRESS:MENTAL, EMOTIONAL OR PHYSICAL TENSION, STRAIN OR DISTRESS.CAN YOU CONTROL YOUR STRESS? EVERYONE RESPONDS TO STRESS DIFFERENTLY IT DEPENDS ON YOU TO PREPARE YOURSELF FOR STRESSFUL SITUATIONS AND YOU CAN BETTER PREPARE YOURSELF BY AVOIDING PERSONAL STRESSES AND BEING PHYSICALLY FIT.STRESS IS A NECESSARY POSITIVE FORCE. we CANNOT WORK EFFECTIVELY OR EVEN MAINTAIN GOOD HEALTH AND A SENSE OF WELL-BEING WITHOUT A FAIR AMOUNT OF IT; IN OTHER WORDS, IF WE HAVE INSUFFICIENT STRESS IN OUR LIVES, WE MAY RUST OUT. HOWEVER, STRESS BECOMES A MAJOR PROBLEM WHEN WE ARE OVER-STIMULATED OR BOMBARDED WITH TOO MUCH WORK OR TOO MANY DISRUPTIONS AND SURPRISES. WHEN WE EXPERIENCE THIS SITUATION, WE MAY BURN OUT. THE STRESS MANAGEMENT TASK EACH OF US FACES IS ONE OF MAINTAIN LIFE AND WORK STYLES THAT AVOID BOOT H RUST AND BURN OUT.BECAUSE WE MAY EXPERIENCE AN OVERLOAD OF STRESS AND NOT DEAL WITH IT EFFECTIVELY OVER LONG PERIODS OF TIME WE CAN EVENTUALLY EXPERIENCE UNDESIRABLE MANIFESTATIONS OF STRAIN: #

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      7#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########h###OVER AGGRESSIVEDISREGARD RULES
SOCIAL EXTROVERTDRANK EXCESSIVELYSENSITIVE TO CRITICISMNO LIMITATIONS
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###ÿÿ#####ÿ□#ÿÿd#########d#########%###FOLLOWING PILOT HUMAN FACTORS EXISTED PRIOR A: PENDING DIVORCE COMPLICATED BY ISSUES OF GARNISHMENT OF WAGES AND CHILD VISITATION RIGHTSB: MP RECENTLY ASSUMED RESPONSIBILITY FOR 19 YR OLD STEPSON WHO WAS IN TROUBLE WITH POLICE AND WHO HAD RECENTLY FATHERED A CHILD OUT OF WEDLOCK C: MP WAS RELIEVED FOR CAUSE AS MAINTENANCE OFFICER BY ms CO IN OCT 92D: MP EXPRESSED CONCERN TO MS CO OVER CIRCUMSTANCES SURROUNDING BEING PASSED OVER FOR PROMOTION TO O-5 IN MAR92 E: MP□S FORMER GIRLFRIEND WAS NINE MONTHS PREGNANT .MP WAS UNDERGOING PRIVATE FAMILY COUNSELING WITH FORMER GIRLFRIEND.F: MP STATED TO FORMER GIRLFRIEND THAT HE FEARED HE WAS ABOUT TO BE RE-INVESTIGATED FOR UNSPECIFIED ACTIONS AT THE 1991 TAILHOOK CONVENTION.G: MP WAS ADMITTED TO OAKLAND, CA IN AUG 82 FOR LEVEL III ALCOHOL TREATMENT AFTER EXPRESSING POTENTIAL SUICIDE INTENT TO A FRIEND.H: MP FLEW MA TO TWIN FALLS TO RESOLVE LONG-STANDING GRUDGE HE FELT WAS HELD BY HIS UNCLEI: MP RECENTLY BECAME SERIOUS IN RELATIONSHIP WITH PRESENT GIRLFRIEND.MS CO WAS AWARE OF HUMAN FACTORS A-D.#

##########ÿ□#ÿÿd#########d#########q###ULTIMATE GOAL MAINTAIN HOMEOSTASIS IF WE DON□T DEAL WITH ACUTE STRESS THESE ARE OUR RESULTSFOR CHRONIC STRESS:#

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A VARIETY OF STRESSFUL CONDITIONS ALL ACT ON THE BRAIN TO ELICIT THE RELEASE OF CORTICOTROPHIN-RELEASING HORMONE (CRH) FROM THE HYPOTHALAMUS. CRH STIMULATES THE RELEASE OF CORTICOTROPHIN (ACTH) A POLYPEPTIDE HORMONE, FROM THE ANTERIOR PITUITARY . ACTH ACTS ON THE ADRENAL CORTEX STIMULATING THE SYNTHESIS AND RELEASE OF CORTICAL .ONCE THE CORTISOL LEVEL IS SUFFICIENTLY ELEVATED, CRH AND ACTC SECRETION ARE DECREASED THROUGH THE NEGATIVE-FEEDBACK EFFECT OF CORTISOL ON THE HYPOTHALAMUS.ADRENAL GLANDS ARE PAIRED ORGANS LOCATED ABOVE THE KIDNEYS. THE ADRENAL MEDULLA IS PART OF THE SYMPATHETIC DIVISION OF THE AUTONOMIC NERVOUS SYSTEM.THEY RELEASE CATECHOLAMINS CALLED EPINEPHRINE/NOREPINEPHRINE.DURING FIGHT-FLIGHT SYNDROME DEMANDS INCREASED BLOOD FLOW, NUTRIENTS, AND O2 SUPPLY.EPINEPHRINE VASODILATOR INCREASE BLOOD FLOW TO THE HEART NOREPINEPHRINE ACTS ON THE VISCERAL BLOOD VESSELS TO CAUSE VASOCONSTRICTION SHUNTING THE BLOOD TO THE MUSCLES. EPINEPHRINE INCREASE FATTY ACID AND GLYCOGEN BREAKDOWN. CATECHOLAMINES ACT ON THE BRAIN TO INCREASE AROUSAL, ALERTNESS, AND EXCITABILITY. THEY ALSO DILATE THE PUPIL, PERMITTING MORE LIGHT TO ENHANCE PERIPHERAL VISION;IN SHORT, THE FUNCTIONS OF THE ADRENAL MEDULLA SHOULD BE CONSTRUED AS COMPLEMENTARY AND SYNERGISTIC WITH THE FUNCTIONS OF THE SYMPATHETIC NERVOUS SYSTEM.

##########ÿ□#ÿÿd#########d#########0###AS STRESS INCREASES SO DOES PERFORMANCE TO AN OPTIMAL LEVEL IF YOU ARE OVER-STRESSED YOU WILL SURPASS YOUR OPTIMAL PERFORMANCE LEVEL AND DECLINE IN PERFORMANCETHEREFORE IT IS PARAMOUNT TO PREPARE YOURSELF MENTALLY AS WELL AS PHYSICALLY TO PREPARE FOR STRESS IN ORDER TO PERFORM AT YOUR OPTIMAL LEVEL.

##########ÿ□#ÿÿd#########d#########¦###MANY INSTANCES PHYSIOLOGICAL STRESSORS ARE THINGS THAT WE DO TO OURSELVES. THESE THINGS ARE USUALLY AVOIDABLE AND CAN BE CONTROLLED, IN OTHER WORDS WE CAN CONTROL THE EFFECT OF THE STRESSOR. MANY OF THESES STRESSORS ARE THE RESULT OF INAPPROPRIATE COPING STRATEGIES TO OTHER STRESSES. PEOPLE MAY USE DRUGS AND OR ALCOHOL IN AN ATTEMPT TO REDUCE JOB RELATED STRESS, WHICH FOR THE MOST PART WILL ONLY CAUSE FURTHER HARM.

###ÿÿ#####ÿ□#ÿÿd#########d#########á###NATOPS STATES NO SELF MEDICATING WITHOUT THE APPROVAL OF A FLIGHT SURGEON WHY?WHAT IS THE REASON YOU□RE TAKING THE MEDICATIONMAYBE YOU SHOULDN□T BE FLYINGSIDE EFFECTS: DROWSINESS, SEDATION, HYPERACTIVITYSYNERGISTIC EFFECTPRODUCING AN EFFECT WHICH NEITHER COULD PRODUCE ALONE OR AN EFFECT WHICH IS GREATER THAN THE TOTAL EFFECTS OF EACH AGENT OPERATING BY ITSELF.I.E. IF TAKEN WITH CAFFEINE DRUG IS LONGER ACTING IDIOSYNCRATIC EFFECT EVERY INDIVIDUAL DIFFERENTWHAT EFFECT IT HAS ON YOU AT SITE LEVEL MAY NOT BE THE SAME EFFECT AT ALTITUDETOLERANCEBODY BUILDS UP A TOLERANCE THE MORE YOU TAKE THE MOREYOUR BODY RELIES UPON IT TO FUNCTION AT THE NEW LEVEL AFTER MEDICATION WEARS OFF THE SYMPTOMS REOCCUR IN A MORE EXTREME NATURE#

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#□#ÿÿ####ÿÿ####Uÿl#ÿÿK#########d#########h###RESTLESSNESSLOSS OF CONCENTRATION
DISTURBED SLEEPMILD ADDICTIONDECREASED AWARENESSHEART PALPITATION
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###ÿÿ#####ÿ#ÿÿd#########d#########Þ###CAFFEINE IS A DRUGWE CAN BECOME ADDICTED AND WE CAN BUILD UP A TOLERANCE TO IT....IF WE STOP DRINKING CAFFEINE WE CAN GO THROUGH WITHDRAWAL SYMPTOMSCAFFEINE SHOULD BE USED IN MODERATION, IF USED AT ALL. AIRCREW SHOULD CONSIDER USING DEC caffeinated BEVERAGES AS A SUBSTITUTE. PSYCHOACTIVE DRUG: MOLECULES ARE ALMOST IDENTICAL TO THOSE OF A BRAIN CHEMICAL CALLED ADENOSINE (NEUROTRANSMITTER) adenosine IS RELEASED BY NERVE ENDINGS TRAVELS TO RECEPTORS ON BRAIN CELLS AND COUNTERACTS THE RELEASE OF OTHER CHEMICALS THAT EXCITE THOSE CELLS. when COFFEE IS INGESTED THE CAFFEINE MOLECULES TRAVEL TO THE BRAIN AND OCCUPY SOME OF THE RECEPTORS REPLACING THE ADENOSINE MOLECULES AND ALLOWING EXCITEMENT OF THOSE BRAIN CELLS TO CONTINUE.

##########ÿ□#ÿÿd#########d#########R###NATOP's SUGGESTS TO LIMIT CAFFEINE INTAKE TO NO MORE THAN 450 MG OF CAFFEINE A DAYCAFFEINE ACTS AS A STIMULANT AND DIURETIC WHICH CAN RESULT IN DEHYDRATION.EXCESSIVE AMOUNTS OF CAFFEINE CAN AFFECT YOUR G-TOLERANCE BY REDUCING BLOOD VOLUME, THUS MAKING YOU MORE SUSCEPTIBLE TO G-LOC..SEVERAL STUDIES HAVE DEMONSTRATED THAT CAFFEINE IMPROVES ENDURANCE EXERCISE PERFORMANCE POSSIBILITIES INCLUDE INCREASED FF. OXIDATION WITH CONSEQUENT SPARING OF MUSCLE GLYCOGEN AS WELL AS ENHANCEMENT OF NEUROMUSCULAR FUNCTION DURING EXERCISE, ALSO AN INCREASE IN EPINEPHRINE.caffeine MIMICS ADENOSINE

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###ÿÿ#####ÿ□#ÿÿd#########d#########M###NATOPS 3710.7 Q#ALCOHOL INTAKE WITH IN 12
HOURS#OF FLIGHT PLANNING PROHIBITEDD
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###ÿÿ#####ÿ▯#ÿÿd#########d#########Å###THREE THINGS THAT CAN CROSS THE BLOOD BRAIN BARRIERASPIRIN, CAFFEINE, ALCOHOLIT IS ▯ASSUMED▯ THAT AFTER 14 HOURS ALL TRACES OF ALCOHOL ARE REMOVED FROM THE BLOOD. ALCOHOL PRODUCES SIGNIFICANT CHANGES IN THE BODY SYSTEMS. THESE CHANGES ARE PRESENT LONG AFTER THE ALCOHOL HAS BEEN METABOLIZED. ALL PILOTS SHOULD BE AWARE OF THIS RESIDUAL/HANGOVER EFFECTS OF ALCOHOL, WHICH CAN BE DETRIMENTAL TO PERFORMANCE EVEN THOUGH THERE ISN▯T A DETECTABLE LEVEL OF BLOOD ALCOHOL PRESENTREDUCES CELLS ABILITY TO TRANSPORT OXYGEN...HISTOTOXIC HYPOXIAALCOHOL IS A SEDATIVE, AND A CNS DEPRESSANT ANESTHETICIT INHIBITS ADH LEADING TO DEHYDRATION BODY TAKES 3 HRS TO METABOLIZE 1.5 OZ OF ALCOHOL12 HRS FOR 6 OUNCES.#

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Ã#ÿÿ####ÿÿ#####ÿ□#ÿÿd#########d#########}###VESTIBULAR EFFECT:ENDOLYMPH REDUCES
SPECIFIC GRAVITY.....BED SPINS, MOTION SICKNESSUP TO 48 HOURS AFTER CONSUMING
ALCOHOL#
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NATOPS 3710.7#FLIGHT CREWS SHALL ENSURE THAT THEY ARE FREE OF HANGOVER EFFECTS PRIOR TO FLIGHT

##########ÿ□#ÿÿd#########d#########Í###VESTIBULAR EFFECT:ENDOLYMPH REDUCES SPECIFIC GRAVITY BED SPINS, MOTION SICKNESS UP TO 48 HOURS AFTER CONSUMING ALCOHOL.INCREASES DEHYDRATIONDECREASES G-TOLERANCEDECREASES TOLERANCE TO THERMAL STRESSS

##########ÿ□#ÿÿd#########d#########x###BODY 70 % WATERNEED WATER TO ASSIST WITH ALL METABOLIC FUNCTIONS. FLUID NEEDS DEPEND ON: BODY SIZE, FITNESS LEVEL, TRAINING, AND DIETARY FACTORS (E.G. CAFFEINE, ALCOHOL DEHYDRATES)SPREAD OUT H20 INTAKE OVER THE DAY DRINK PAST FEELING THIRSTY, WHICH TURNS OFF BEFORE YOU□VE REPLENISHED LOST FLUIDSBALANCE OF WATER IS UNDER CONTROL OF KIDNEYSLOST VIA URINE, SWEAT ,EXHALATIONTHE MORE HYDRATED YOU ARE THE BETTER PREPARED YOU ARE TO TOLERATE ENVIRONMENTAL STRESSORS:HEAT, COLD, VIBRATION, G-LOC, HYPOXIA, ABSTAINING FROM DIURETICS ALCOHOL CAFFEINEINGEST ION OF LIQUIDS THROUGHOUT THE DAY WILL REDUCE DEHYDRATIONCOLOR OF URINE DETERMINES LEVEL OF DEHYDRATION4-5 QUARTS H2O/DAY IF SEDENTARYH2O HELPS THE LIVER CONVERT FAT IN THE BLOODSTREAM INTO USABLE ENERGY NATURAL APPETITE SUPPRESSANT.WHEN YOU INCREASE LEAN BODY MASS INCREASE H20INCREASE BV IMPROVES 02 AND NUTRIENT DELIVERY

##########ÿ#ÿÿd#########d#########®###SYMPTOMS OF DEHYDRATIONHEADACHE DARK URINE CONSTIPATION DIZZINESS DRY MUCOUS MEMBRANES IRRITABILITY FATIGUE TACHYCARDIA INSOMNIA ABDOMINAL PAIN HEMORRHOIDSPREDISPOSING FACTORS FOR DEHYDRATIONPOOR PHYSICAL CONDITIONINGOBESITYPROTECTIVE GEARAFFECTIVE THERMODYNAMICSSWEATING KEEPS YOU COOL HOWEVER LOSING ALL THAT H20/FLUID LESSENS THE EFFICIENCY OF THE INTERNAL OPERATIONS OF YOUR BODY.IF YOU DONT TAKE IN H20 BLOOD THICKENS. THIS MAKES YOUR HEART PUMP HARDER AND SLOWS O2/NUTRIENT DELIVERY TO MUSCLES WHICH MAKES YOU SUFFER IN THE LONG RUN.AS YOU DEHYDRATE YOUR PACE SLOWS, MAY BECOME DIZZY,WEAK, OR NAUSEATED. EVENTUALLY YOU MAY CRAMP UP, GET CHILLED, OR EVEN HALLUCINATE.

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S#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########e###6 - 7 % CARBOHYDRATENOT
CARBONATEDCONTAINS ELECTROLYTESTASTES GOODNO GI DISTRESSRAPIDLY ABSORBED#

##########ÿ□#ÿÿd#########d#########j###PEOPLE WHO EXERCISE AT HIGH INTENSITIES
FOR MORE THAN 30 MINUTES SHOULD CONSUME A SPORTS DRINK TO REHYDRATEACSM 1993
ELECTROLYTES, SODIUM POTASSIUM MAGNESIUMUS ARMY RESEARCH INSTITUTE ENVIRONMENTAL
MEDICINE IN MASS :ON A HOT DAY 1/2 GALLON OF SWEAT CAN BE LOST PER HOURBEFORE
YOU EXERCISE DRINK 2 CUPS OF WATERSEVERAL CUPS AFTER1 PT PER HOURIF YOU□RE
THIRSTY IT□S TOO LATEMONITOR YOUR URINE COLORDRINKING WATER OR SUGAR FREE
PRODUCTS AID IN FAT METABOLISM AND SPARE MUSCLE GLYCOGEN FROM DEPLETIONWEIGH
BEFORE/AFTER1LB = 1 PT H2O MUSCLES ARE MOST RECEPTIVE TO REPLACEMENT
IMMEDIATELY FOLLOWING EXERCISE

##########ÿ□#ÿÿd#########d############EXERCISE EXPERTS KNOW THAT MOST ATHLETES LOSE RELATIVELY LITTLE SODIUM AND POTASSIUM UNLESS THEY EXERCISE STRENUOUSLY FOR MORE THAN SIX HOURS IN THE HEAT. THEY GET YOU TO DRINK MORE FLUIDSEXPERIMENTING DURING TRAINING IS THE BEST WAY TO DETERMINE WHETHER SPORTS DRINKS WORK FOR YOU. SAVE MONEY BY DRINKING WATER WITH FRUIT OR DRINK FRUIT JUICE.RESEARCHERS STATE SPORTS DRINK IS IMPORTANT FOR FLUID ABSORPTION IF EXERCISING OVER AN HOUR AT A TIME.BE AWARE OF THE TOTAL GRAMS IN ONE 8 OZ SERVING DOESN□T EXCEED 20 GRAMS3

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ö8ûö###ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########c###ACCLIMATIZATIONHIGHER TEMP
INCREASE SWEATINCREASE CODECREASE BODY TEMPDECREASE URINE OSMOLARITY
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##########ÿ#ÿÿd#########d#########M###OVEREXERTION OR INTENSE EXPOSURE TO HOT ENVIRONMENTS INTERFERES WITH BODYS ABILITY TO COOL ITSELFEXERCISE INCREASES INTERNAL HEAT PRODUCTION = 15-20 XS SWEAT DECREASE TEMP 85%DEPENDING ON THE ENVIRONMENT HIGH LEVELS OF HEAT/HUMIDITYCAN IMPEDE BODYS ABILITY TO DISSIPATE HEAT VIA SWEATHEAT EXHAUSTIONPROFUSE SWEATING DIZZINESS LIGHTHEADEDNESS WEAKNESS NAUSEARAPID COOLING H20, MIST FANS ICEHEAT STROKECESSATION OF SWEATSOARING BODY TEMP 106 FALTERED MENTAL STATEHOT DRY FEELING SKINSUN BURNS CAN INTERFERE WITH BODYS ABILITY TO SWEATTAKE IN FLUIDS AVOID CAFFEINE ALCOHOLS

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      ½#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########^###4000 CHEMICALSDIABOLICAL
SYNERGISM40% LESS MAO BDOUBLES DOPAMINENEXT DRUG MORE PLEASURABLE
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##########ÿ□#ÿÿd#########d#########X###SMOKING APPEARS TO CREATE A SELF-PERPETUATING CYCLE: LESS MOA B LEADS TO MORE DOPAMINE, LEADS TO MORE PLEASURE, LEADS TO MORE SMOKING, LEADS TO LESS MOA B AND SO ON.THIS EFFECTS WORKS SYNERGISTICALLY WITH NICOTINE TO BOOST DOPAMINE LEVELS. NICOTINE INCREASES DOPAMINE LEVELS EVERY SUBSTANCE THAT IS ADDICTING LEADS TO AN INCREASE IN DOPAMINE LEVELS IN THE BRAIN. WHICH EXPLAINS WHY PEOPLE WHO ABUSE ONE SUBSTANCE OFTEN ABUSE ANOTHER BIOCHEMICAL PATHWAY OR CHANNEL IS PRODUCED. A DRUG MAY LEAVE AN IMPRINT IN THE BRAIN, SO THAT THE NEXT DRUG BECOMES MORE PLEASURABLE THAN IT WOULD OTHERWISE.CARBON MONOXIDE INTERACTS WITH THE RBCS IT COMBINES WITH THE HEMOGLOBIN FORMS CARBOXYHEMOGLOBIN. THIS COMPOUND PREVENTS THE ATTACHMENT OF OXYGEN MOLECULES TO THE HEMOGLOBIN THUS PRODUCING HYPOXIA.3 CIG BEFORE A FLIGHT PUTS YOU AT 3-5000 FT PHYSIOLOGICALLY

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#K#ÿÿ$###ÿÿ####Uÿl#ÿÿK#########d#########V###DIURNAL VARIATIONSRESET CLOCK>3
TIME ZONE 1 DAY/ZONE25 HOUR CLOCKEXPOSURE TO LIGHT
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###ÿÿ#####ÿ□#ÿÿd#########d#########¢###RUNNING BUILDS LEAN TISSUE DECREASES FATTY TISSUELEAN TISSUE CONTAINS MORE H20 AS YOU INCREASE YOUR CARDIAC OUTPUT VIA RUNNING INCREASE BV WHICH IMPROVES 02 AND NUTRIENT DELIVERYDURING RUNNING MUSCLES GENERATE HEAT 5 MILES= 500 KCALS BURNEDBODY KEEPS COOL VIA SWEAT.DURING ACCLIMATIZATION YOUR SWEAT GLANDS ENLARGE AND INCREASE IN NUMBER GIVING YOU THE ABILITY TO BEGIN SWEATING EARLIER AND PRODUCING MORE SWEAT.

##########ÿ□#ÿÿd#########d##########□###INCREASED AEROBIC CAPACITY, WHICH ENHANCES THE BODY□S EFFICIENCY TO UTILIZE O2. AEROBIC EXERCISE IS BENEFICIAL TO THE CARDIOVASCULAR SYSTEM, IT INCREASES THE EFFICIENCY OF THE HEART AND LUNGS, AND INCREASES THE RATE AND DEPTH OF BREATHING. muscle CELLS BECOME MORE EFFICIENT IN USING O2. ENHANCES VASCULAR BED.ENDURANCE TRAINING RESULTS IN CHANGES IN ONE□S ABILITY TO PROVIDE OXYGEN TO WORKING MUSCLES. FOR YEARS, SCIENTISTS HAVE KNOWN THAT REGULAR ENDURANCE TRAINING RESULTS IN AN INCREASE IN THE ENERGY-PRODUCING STRUCTURES, CALLED MITOCHONDRIA, WHICH ARE FOUND IN ALL MUSCLE CELLS. IN ADDITION TO MITOCHONDRIAL INCREASES, THE NUMBER OF BLOOD VESSELS (CAPILLARIES) INCREASES BY 50 %. IT IS THIS INCREASE IN THE NUMBER OF CAPILLARIES THAT ALLOWS FOR GREATER DELIVERY OF NUTRIENTS AND OXYGEN TO THE MUSCLES. THOSE WHO ARE TRAINED ARE ABLE TO EXERCISE LONGER AND AT GREATER INTENSITIES THAN LESS TRAINED INDIVIDUALS.#

###ÿÿ#####ÿ□#ÿÿd#########d#############ANAEROBIC EXERCISE INCREASES FLEXIBILITY, STRENGTHENS SKELETAL MUSCLES, INCREASES COORDINATION, AND BURNS CALORIES. EVEN AFTER YOU□VE FINISHED THE WORK OUT UP TO 12 HOURS LATER.SPRINTS, OR SHORT DURATION HIGH-INTENSITY EVENTS SUCH AS WEIGHT LIFTING, REQUIRE THE RELEVANT MUSCLE GROUPS TO QUICKLY PROVIDE LARGE QUANTITIES OF ENERGY FOR BRIEF PERIODS OF TIME. studies SHOW THAT USING THIS FORM OF EXERCISE WILL ADDITIONALLY ENHANCE THE ABILITY TO WITHSTAND INCREASED G-FORCES FOR LONGER PERIODS. WHEN HEAVY DEMAND IS PLACED ON THE ANAEROBIC PATHWAY, LEVELS OF LACTIC ACID INCREASE, WHICH MAY CAUSE SORENESS AND FATIGUE. REGULAR ANAEROBIC TRAINING ENABLES ATHLETES TO WORK AT GREATER INTENSITIES THAN CAN BE SUPPORTED AEROBICALLY. THIS INCREASE IN MAXIMAL WORK INTENSITY IS DUE TO AN INCREASE IN MUSCULAR STRENGTH AND AN INCREASED ABILITY TO BUFFER LACTIC ACID. ANAEROBIC AND AEROBIC TRAINING PROGRAMS CAN BE DESIGNED TO COMBINE HIGH INTENSITY AND PROLONGED SUBMAXIMAL EXERCISE TO IMPROVE THE REMOVAL OF LACTIC ACID AND DELAY FATIGUE.#

###ÿÿ#####ÿ#ÿÿd#########d#############EXERCISE PHYSIOLOGIST HAVE COME UP WITH A TERM CALLED:BRAIN FATIGUE: SPENT STORE OF MUSCLE GLYCOGEN, OVERUSE OF SPECIFIC MUSCLE GROUPS, LACTIC ACID BUILD UP ALL OF THESE COMBINED MEANS A PERIPHERAL FATIGUE MECHANISM... ORIGINATE IN THE MUSCLES HOWEVER, AFFECTS AREAS IN THE BRAIN VIA NEUROTRANSMITTERS WHICH PLAY A ROLE IN YOUR MOOD/ALERTNESS. E.G. SEROTONIN INCREASES DURING EXERCISE AND WE ALL KNOW THAT SEROTONIN MAKES US SLEEPY AND TIRED. MAY BE THE REASON WE GET FATIGUE:OXFORD UNIVERSITY BIOCHEMIST ERIC NEWSHOLME PhD. WHEN YOU RUN FOR A LONG TIME YOU DRAIN YOUR MUSCLES OF GLYCOGEN, WHICH IS THE FORM THAT CARBOS TAKE WHEN STORED IN MUSCLE TISSUE. WHEN THIS STORE DECREASES FATTY ACIDS BECOME PRIMARY ENERGY SOURCE....FATTY ACIDS REQUIRE A SPECIAL CARRIER TO TAKE THEM THROUGH THE BLOODSTREAM. HOWEVER ANOTHER SUBSTANCE TRYPTOPHAN AN AMINO ACID THAT CONVERTS TO SEROTONIN COMPETES WITH FFAs WHILE ENDURANCE TRAINING WE USE FFA WE BUMP TRYPTOPHAN OFF ITS CARRIER AND WE SEE MORE FREE FLOATING TRYPTOPHPAN WHICH INCREASES SEROTONIN (TIRED)#

##########ÿ#ÿÿd#########d#########î###EVERYTHING YOUR MOTHER SAID WAS TRUE:EAT EVERYTHING IN MODERATION EVEN DRINKWIDE VARIETY OF FOOD, FATS, CARBS, PROTEINSNO FAT DIETS ARE HARMFUL AND CAN BACKFIRE BY EATINGTWICE AS MUCH BECAUSE ITS FAT FREEKEEP IT SIMPLE HEALTHY EATINGAVOID EATING FOODS CONTAINING WORDS YOU CANT PRONOUNCECARBOHYDRATE IS STORED IN THE BODY AS GLYCOGEN IN THE LIVER AND MUSCLES, AND AS GLUCOSE IN THE BLOODSTREAM.   PROTEIN AND FAT ARE THE OTHER SOURCES OF FUEL THAT CAN BE SUED DURING EXERCISE.   JUST TWO HOURS OF EXERCISE OR EIGHT HOURS OF FASTING CAN SIGNIFICANTLY DEPLETE CARBOHYDRATE STORES. 60-20-20 40-30-30?????PROTEIN IS USED TO BUILD AND REPAIR TISSUE INCLUDING MUSCLE, LIGAMENTS AND TENDONS. IF TOTAL CALORIC INTAKE IS INSUFFICIENT, PROTEIN WILL BE BROKEN DOWN FOR ENERGY INSTEAD OF BEING USED FOR TISSUE BUILDING.FAT ENERGY FROM FAT IS RELEASED MORE SLOWLY THAN FROM CARBOHYDRATE. FAT EXITS THE STOMACH SLOWLY AND CAN CAUSE CRAMPING, SO ITS CONSUMPTION SHOULD BE HELD TO A MINIMUM DURING EXERCISE.

###ÿÿ#####ÿ▯#ÿÿd#########d#########ß### VITAMINS ARE IMPORTANT NUTRIENTS FOR A VARIETY OF METABOLIC REACTIONS, BUT THEY PROVIDE NO ENERGY. THERE IS A COMMON MISCONCEPTION THAT VITAMIN SUPPLEMENTS WILL ENHANCE ATHLETIC PERFORMANCE. AFTER YEARS OF SCIENTIFIC SCRUTINY THERE IS NO EVIDENCE TO SUGGEST THAT VITAMIN SUPPLEMENTATION ENHANCES PERFORMANCE IN INDIVIDUALS WHO ARE CONSUMING AN ADEQUATE DIET. IRON SUPPLEMENTS MAY BE REQUIRED FOR SOME ATHLETES. IRON SUPPLEMENTS FOR ANEMIC ATHLETES CAN HAVE A POSITIVE EFFECT ON HEALTH AND PERFORMANCE, ALTHOUGH IT IS ADVISABLE THAT AN ATHLETE SEEK A PHYSICIAN▯S ADVICE BEFORE ASSUMING THEY ARE ANEMIC.ELECTROLYTES ARE MINERALS THAT BECOME ELECTRICALLY CHARGED WHEN DISSOLVED IN BODY FLUIDS. ELECTROLYTES HELP MAINTAIN FLUID BALANCE, BLOOD VOLUME, PROPER NERVE TRANSMISSION, MUSCLE CONTRACTION AND CONTROL OF THE ACID/BASE BALANCE OF BODY FLUIDS. ELECTROLYTES SUCH AS SODIUM, POTASSIUM AND CHLORIDE ARE OFTEN REQUIRED IN GRATER THAN-NORMAL QUANTITIES BY ATHLETES WHO PERSPIRE HEAVILY.#

##########ÿ□#ÿÿd#########d#############NORMAL FAT: MOST DIETARY FAT COMES IN THE FORM OF TRIGLYCERIDES 3 FATTY ACIDS ARRAYED AROUND A MOLECULE OF GLYCEROL, A TYPE OF ALCOHOL BEFORE TRIGLYCERIDES CAN BE ABSORBED BY THE BODY THEY MUST BE SLICED INTO MANAGEABLE PIECES BY INTESTINAL ENZYMES.FAT FREE FATOLESTRA MOLECULES, MADE OF SIX OR EIGHT FATTY ACIDS ATTACHED TO A SUGAR MOLECULE, ARE MUCH BIGGER THAN TRIGLYCERIDES AND PACKED SO TIGHTLY THAT THE ENZYMES CAN□T CUT THEM APART, THEY PASS THROUGH THE INTESTINES WITHOUT BEING ABSORBED.ANAL LEAKAGEVITAMIN DEFICIENCIES □ADEK□ ALL FAT SOLUBLE, THESE VITAMINS LATCH ON TO OLESTRA AND EXIT VIA THE GI TRACTDIARRHEA= LOSS OF LIQUID, ELECTROLYTES GI INFLAMMATION AND POOR ABSORPTION OF PROTEINS AND CARBOHYDRATES.TRIGGERS: CRAMPS, FLATULENCE, BLOATING LOOSE STOOLS FECAL URGENCY

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going to make any changes?What questions do you have?
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